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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/673,658

09/29/2003

Takchiro Nakamura

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EXAMINER

KIM, KEVIN

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

05/02/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/673,658	Applicant(s) NAKAMURA ET AL.	
	Examiner Kevin Y. Kim	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 5-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato (US 5,956,328) in view of Abramson (US 5,745,485 previously cited).

Claims 5 and 13.

Sato discloses a transmission apparatus and method (see Fig.1), comprising:

a spreading means (102) for spreading each of separated in-phase and quadrature components (Td-I, Td-Q) of a signal to be transmitted by using a short code and a long code (see col.4, lines 40-41, describing a combination of the short code and the long code) and

transmission means (103-106) for transmitting the signal whose in-phase and quadrature component have been spread.

The claimed invention differs from Sato's apparatus in that the long code for the in-phase component is different from that for the quadrature component.

Abramson teaches that one may use different spreading codes for the in-phase component quadrature components in particular because the use of different codes helps to detect asynchronous transmissions from different transmitters. See col.4, lines 11-20.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to use different long codes for the in-phase and quadrature components of a transmission

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signal in the apparatus of Sato for the purpose of helping detect asynchronous transmissions from different transmitters, as taught by Abramson.

Claim 6.

It is quite established that since a spreading code is a pseudo random in nature, the shifting in phase of the spreading code results in a different pseudo random code. Thus, the obtaining of the long code for the quadrature component by shifting the long code for the in-phase component would have been obvious to one skilled in the art at the time the invention was made.

Claim 7.

Fig.3 of Sato shows a complex operation between the in-phase and quadrature components of the long code and the in-phase and quadrature components of the signal.

Claim 8.

Fig. 3 of Sato shows using the same short code for the in-phase and quadrature components of the signal.

Claims 9 and 14.

Sato discloses a receiver apparatus and method (see Fig.4), comprising:

reception means (401-402) for receiving a spread signal and

despreading means (403) for despreading separated in-phase and quadrature components (Rx-I, Rx-Q) of the received signal by using a short and a long code. See col.4, lines 40-41, describing a combination of the short code and the long code.

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Abramson teaches that one may use different spreading codes for the in-phase component quadrature components in particular because the use of different codes helps to detect asynchronous transmissions from different transmitters. See col.4, lines 11-20.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to use different long codes for the in-phase and quadrature components of a transmission signal in the apparatus of Sato for the purpose of helping detect asynchronous transmissions from different transmitters, as taught by Abramson.

Claim 10.

It is quite established that since a spreading code is a pseudo random in nature, the shifting in phase of the spreading code results in a different pseudo random code. Thus, the obtaining of the long code for the quadrature component by shifting the long code for the in-phase component would have been obvious to one skilled in the art at the time the invention was made.

Claim 11.

Fig. 3 of Sato shows a complex operation between the in-phase and quadrature components of the long code and the in-phase and quadrature components of the signal.

Claim 12.

Fig. 3 of Sato et al shows using the same short code for the in-phase and quadrature components of the signal.

Claim 15.

Sato discloses the transmission apparatus (Fig.1) and the reception apparatus (Fig.4) comprising the recited elements, as explained in connection with claims 5 and 9 above.

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

April 30, 2007

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KEVIN KIM
PRIMARY PATENT EXAMINER

A handwritten signature in black ink, appearing to read 'Kevin Kim', is written over the printed name and title.